



ADVISING WORKSHEET
BACHELOR OF SCIENCE DEGREE
MAJOR IN BIOLOGY
General Bulletin 2018-2019

TRANSFER INSTITUTION(S):

Montana State University Billings
 Advising & Career Services
 Phone: 406-657-2240
 Fax: 406-657-2302
 advising@msubillings.edu
www.msubillings.edu/advise/

Name _____

Student ID # _____

GENERAL EDUCATION REQUIREMENTS – SEE ATTACHED PAGE FOR SPECIFIC COURSES

| General Education Category | Course # | Credits | Grade | Semester | Equivalent |
|--|----------|---------|-------|----------|------------|
| Category I: Global Academic Skills (9 credits) A. Mathematics (3 credits) <i>M 171 or STAT 216 – Major requirement</i> B. English (3 credits) C. Communication & Information Literacy (3 credits) | | | | | |
| | | | | | |
| | | | | | |
| Category II: Natural Sciences (7 credits) 2 lectures (6 credits) & 1 lab (1 credit) (1 life science & 1 physical science & 1 lab) <i>BIOB 160/161 & CHMY 141 – Major requirements</i> | | | | | |
| | | | | | |
| | | | | | |
| Category III: Social Sciences and History (6 credits) A. Social Science (3 credits) B. History (3 credits) | | | | | |
| | | | | | |
| Category IV: Cultural Diversity (3 credits) | | | | | |
| Category V: Arts & Humanities (6 credits) A. Fine Arts (3 credits) B. Humanities (3 credits) | | | | | |
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A minimum grade of "C-" is required in all General Education courses.

Note: Certain degrees may require a minimum grade of "C" in General Education courses.

Students should consult with their advisors to determine if specific courses are necessary in order to satisfy the General Education requirements within this program.

Certain courses in this program have prerequisites; students should check the course descriptions in the General Bulletin for required prerequisites.

Reviewed:

GENERAL EDUCATION REQUIREMENTS

CATEGORY I: GLOBAL ACADEMIC SKILLS 9 credits

Students are required to take one course from each subcategory

Subcategory A - Mathematics 3 credits

| | | | |
|-------------|------------|---------------------------------------|----------|
| M | 105 | Contemporary Mathematics | 3 |
| M | 114 | Extended Technical Mathematics | 3 |
| M | 121 | College Algebra | 3 |
| M | 122 | College Trigonometry | 3 |
| M | 130 | Mathematics for Elementary Teachers I | 3 |
| M | 140 | College Math for Healthcare | 3 |
| M | 143 | Finite Mathematics | 4 |
| M | 161 | Survey of Calculus | 3 |
| M | 171 | Calculus I | 4 |
| STAT | 141 | Introduction to Statistical Concepts | 3 |
| STAT | 216 | Introduction to Statistics | 4 |

Subcategory B - English 3 credits

| | | | |
|------|-----|-----------------------------------|---|
| WRIT | 101 | College Writing I | 3 |
| WRIT | 121 | Introduction to Technical Writing | 3 |
| WRIT | 122 | Introduction to Business Writing | 3 |
| WRIT | 201 | College Writing II | 3 |
| WRIT | 220 | Business & Professional Writing | 3 |
| WRIT | 221 | Intermediate Technical Writing | 3 |

Subcategory C - Communication & Information Literacy 3 credits

| | | | |
|------|-----|---|---|
| BMIS | 150 | Computer Literacy | 3 |
| COMX | 111 | Introduction to Public Speaking | 3 |
| COMX | 115 | Introduction to Interpersonal Communication | 3 |
| LSCI | 125 | Research in the Information Age | 3 |

CATEGORY II: NATURAL SCIENCES 6 cr. lecture & 1 cr. lab

Students are required to take one course from each subcategory and at least one corresponding lab or Integrated Sciences

Subcategory A – Life Sciences 3-4 credits

| | | | |
|-------------|------------|---|----------|
| BIOB | 101 | Discover Biology | 3 |
| BIOB | 102 | Discover Biology Lab | 1 |
| BIOB | 121 | Fundamentals of Biology for Allied Health | 3 |
| BIOB | 122 | Fund of Biology: Evolution, Ecology, and Biodiversity | 3 |
| BIOB | 123 | Fund of Biology: The Nature of Nutrition | 3 |
| BIOB | 160 | Principles of Living Systems | 3 |
| BIOB | 161 | Principles of Living Systems Lab | 1 |

Subcategory B – Physical Sciences 3-4 credits

| | | | |
|-------------|------------|---|----------|
| ASTR | 110 | Introduction to Astronomy | 3 |
| ASTR | 111 | Introduction to Astronomy Lab | 1 |
| CHMY | 121 | Introduction to General Chemistry | 3 |
| CHMY | 122 | Introduction to General Chemistry Lab | 1 |
| CHMY | 141 | College Chemistry I | 3 |
| CHMY | 142 | College Chemistry Laboratory I | 1 |
| GEO | 101 | Introduction to Physical Geology | 3 |
| GEO | 102 | Introduction to Physical Geology Laboratory | 1 |
| GPHY | 112 | Introduction to Physical Geography Lab | 1 |
| GPHY | 111 | Introduction to Physical Geography | 3 |
| PHSX | 103 | Our Physical World | 3 |
| PHSX | 104 | Our Physical World Lab | 1 |
| PHSX | 205 | College Physics I | 3 |
| PHSX | 206 | College Physics I Lab | 1 |
| PHSX | 105 | Fundamentals of Physical Science | 3 |
| PHSX | 106 | Fundamentals of Physical Science Lab | 1 |

Integrated Sciences

| | | | |
|------|--------------------|---------------------|------------|
| SCIN | 101, 102, 103, 104 | Integrated Sciences | 3, 1, 3, 1 |
|------|--------------------|---------------------|------------|

CATEGORY III: SOCIAL SCIENCES AND HISTORY 6 CREDITS

Students are required to take one course from each subcategory

Subcategory A – Social Sciences 3 credits

| | | | |
|------|-----|--|---|
| ANTY | 217 | Physical Anthropology & Archeology | 3 |
| BGEN | 105 | Introduction to Business | 3 |
| COMX | 106 | Communicating in a Dynamic Workplace | 3 |
| ECNS | 201 | Principles of Microeconomics | 3 |
| ECNS | 202 | Principles of Macroeconomics | 3 |
| EDU | 105 | Education and Democracy | 3 |
| GPHY | 141 | Geography of World Regions | 3 |
| HTH | 110 | Personal Health and Wellness | 3 |
| PSCI | 210 | Introduction to American Government | 3 |
| PSCI | 220 | Introduction to Comparative Government | 3 |
| PSYX | 100 | Introduction to Psychology | 3 |
| PSYX | 231 | Human Relations | 3 |
| SOCI | 101 | Introduction to Sociology | 3 |
| SOCI | 201 | Social Problems | 3 |

Subcategory B - History 3 credits

| | | | |
|------|-----|---|---|
| HSTA | 101 | American History I | 3 |
| HSTA | 102 | American History II | 3 |
| HSTR | 101 | Western Civilization I | 3 |
| HSTR | 102 | Western Civilization II | 3 |
| HSTR | 103 | Honors Western Civilization I | 3 |
| HSTR | 104 | Honors Western Civilization II | 3 |
| PSCI | 230 | Introduction to International Relations | 3 |

CATEGORY IV: CULTURAL DIVERSITY 3 credits

| | | | |
|-----------|-----|---|---|
| A&SC/WGSS | 274 | Women, Culture, and Society | 3 |
| ANTY | 220 | Culture and Society | 3 |
| ARTH | 160 | Global Visual Culture | 3 |
| COMX | 212 | Introduction to Intercultural Communication | 3 |
| GPHY | 121 | Human Geography | 3 |
| HTH | 270 | Global Health Issues | 3 |
| LIT | 230 | World Literature Survey | 3 |
| MUSI | 207 | World Music | 3 |
| NASX | 105 | Introduction to Native American Studies | 3 |
| NASX | 205 | Native Americans in Contemporary Society | 3 |
| PHL | 271 | Indian Philosophies and Religions | 3 |
| PHL | 272 | Chinese Philosophies and Religions | 3 |
| REHA | 201 | Introduction to Diversity in Counseling | 3 |
| RLST | 170 | The Religious Quest | 3 |
| SPNS | 150 | The Hispanic Tradition | 3 |

CATEGORY V: ARTS & HUMANITIES 6 credits

Students are required to take one course from each subcategory

Subcategory A – Fine Arts 3 credits

| | | | |
|------|-----|-------------------------------------|---|
| ARTZ | 101 | Art Fundamentals | 3 |
| ARTZ | 105 | Visual Language-Drawing | 3 |
| ARTZ | 131 | Ceramics for Non-majors | 3 |
| CRWR | 240 | Intro Creative Writing Workshop | 3 |
| FILM | 160 | Introduction to World Cinema | 3 |
| LIT | 270 | Film & Literature | 3 |
| MART | 260 | Computer Presentation and Animation | 3 |
| MUSI | 101 | Enjoyment of Music | 3 |
| MUSI | 114 | Band: MSUB Symphonic | 1 |
| MUSI | 131 | Jazz Ensemble I: MSUB | 1 |
| MUSI | 147 | Choral Ensemble: University Chorus | 1 |
| PHOT | 154 | Exploring Digital Photography | 3 |
| THTR | 101 | Introduction to Theatre | 3 |
| THTR | 120 | Introduction to Acting I | 3 |

Subcategory B - Humanities 3 credits

| | | | |
|------|-----|--------------------------------|---|
| ARTH | 150 | Introduction to Art History | 3 |
| HONR | 111 | Perspectives and Understanding | 3 |
| LIT | 110 | Introduction to Literature | 3 |
| LIT | 240 | The Bible as Literature | 3 |
| PHL | 110 | Introduction to Ethics | 3 |
| PHL | 111 | Philosophies of Life | 3 |
| PHL | 254 | People and Politics | 3 |

| Course | | Credits | Grade | Semester | Equivalent |
|--|-----|---|-------|----------|------------|
| <i>A minimum grade of C- or better is required in all major coursework</i> | | | | | |
| Biology Requirements | | | | | |
| *BIOB | 160 | Principles of Living Systems | 3 | | |
| *BIOB | 161 | Principles of Living Systems Lab | 1 | | |
| BIOB | 170 | Principles of Biological Diversity | 3 | | |
| BIOB | 171 | Principles of Biological Diversity Lab | 1 | | |
| BIOB | 260 | Cellular and Molecular Biology | 3 | | |
| BIOB | 261 | Cellular and Molecular Biology Lab | 1 | | |
| BIOB | 375 | General Genetics | 3 | | |
| BIOB | 376 | General Genetics Lab | 1 | | |
| BIOB | 425 | Advanced Cell and Molecular Biology | 3 | | |
| BIOB | 426 | Advanced Cell and Molecular Biology Lab | 1 | | |
| BIOB | 487 | Bioinformatics | 3 | | |
| BIOB | 490 | Undergraduate Research | 2 | | |
| BIOB | 499 | Senior Thesis/Capstone | 1 | | |
| BIOE | 370 | General Ecology | 3 | | |
| BIOE | 371 | General Ecology Lab | 1 | | |
| BIOM | 360 | General Microbiology | 3 | | |
| BIOM | 361 | General Microbiology Lab | 1 | | |
| Upper Division Science Electives (10 credits – selected in consultation with advisor from the following rubrics: BCH, BIOB, BIOE, BIOH, BIOM, BIOO, CHMY, EARTH, GEO, GPHY, PHSX) | | | | | |
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Biology Total 44

Chemistry Requirements

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|-------|-----|---------------------------------|---|--|--|
| *CHMY | 141 | College Chemistry I | 3 | | |
| *CHMY | 142 | College Chemistry Laboratory I | 1 | | |
| CHMY | 143 | College Chemistry II | 3 | | |
| CHMY | 144 | College Chemistry Laboratory II | 1 | | |
| CHMY | 321 | Organic Chemistry I | 3 | | |
| CHMY | 322 | Organic Chemistry Laboratory I | 1 | | |
| CHMY | 323 | Organic Chemistry II | 3 | | |
| CHMY | 324 | Organic Chemistry Laboratory II | 1 | | |
| BCH | 380 | Biochemistry | 3 | | |
| BCH | 381 | Biochemistry Lab | 1 | | |

Chemistry Total 20

Mathematics/Statistics Requirement (Choose two of the following)

| | | | | | |
|---------------------|----------------|---|--------|--|--|
| *M or *M | 161 171 | Survey of Calculus Calculus I | 3-4 | | |
| M | 172 | Calculus II | 4 | | |
| PSYX | 223/ 224 | Research Design and Analysis I Research Design and Analysis I Lab | 3 1 | | |
| *STAT or PSYX | 216 223/224 | Introduction to Statistics Research Design and Analysis I with Lab | 4 | | |

Math/Statistics Total 7-8

*May satisfy General Education requirements.

Physics Requirement (choose **one** Physics **sequence**)

| | | | | | | |
|-------|-------------|--|--------|--|--|--|
| *PHSX | 205/ 206 | College Physics I College Physics I Lab | 3 1 | | | |
| PHSX | 207/ 208 | College Physics II College Physics II Lab | 3 1 | | | |
| or | | | | | | |
| PHSX | 220/ 221 | Physics I Physics I Lab | 3 1 | | | |
| PHSX | 232/ 233 | Physics II and Thermodynamics Physics II and Thermodynamics Lab | 3 1 | | | |

Physics Total **8**

Unrestricted Electives

| | | | | | | |
|------|-----|---|---|--|--|--|
| CHMY | 311 | Analytical Chemistry – Quantitative Analysis (Recommended but not required) | 3 | | | |
| CHMY | 312 | Analytical Chemistry Laboratory – Quantitative Analysis (Recommended but not required) | 1 | | | |
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BACHELOR OF SCIENCE DEGREE IN BIOLOGY

| Categories | Credits | Earned | Remaining |
|-----------------------------------|----------------|---------------|------------------|
| General Education Requirements | 31 | _____ | _____ |
| Biology Requirements | **40 | _____ | _____ |
| Chemistry Requirements | ***17 | _____ | _____ |
| Math or Statistics Requirement | ***4-5 | _____ | _____ |
| Physics Requirements | 8 | _____ | _____ |
| Unrestricted Electives (variable) | V | _____ | _____ |
| Total | 120 | _____ | _____ |

****4 credits that also satisfy General Education requirements are not included in the total number of credits.**
*****3 credits that also satisfy General Education requirements are not included in the total number of credits.**
 The total number of elective credits required for the degree will be determined by the number of courses a student elects to take which fulfill both the General Education requirements and the major requirements. Electives should be chosen in consultation with an academic advisor.

**It is the student’s responsibility to know and meet the requirements for graduation.
 A minimum of 36 credits must be upper division classes (300 and above).**